

IN THE CLAIMS

Please delete all previous claim listings in the application and insert the following list of claims:

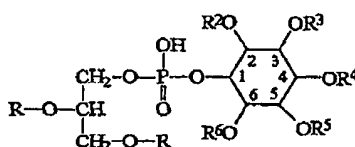
- 1
31. [CURRENTLY AMENDED] A method for assaying presence, activity, or both, of an enzyme, the method comprising:
- (a) contacting an enzyme substrate specifically reactive with an enzyme selected from the group consisting of ~~a lipid kinase, a phospholipid kinase, a lipid phosphatase, and a phospholipid phosphatase with a binding matrix~~ enzymes that catalyze transfer of a phosphate group to a lipid or phospholipid substrate, and enzymes that catalyze removal of a phosphate group from a lipid or phospholipid substrate; whereby the enzyme substrate is fixed to the matrix; and then
- (b) contacting the substrate fixed to the matrix with an enzyme under conditions wherein the enzyme is active for a time sufficient to yield phosphorylated product fixed to the matrix when assaying a lipid or phospholipid kinase or a dephosphorylated product fixed to the matrix when assaying a lipid or phospholipid phosphatase; and then
- (c) analyzing the matrix for presence of, amount of, or both the presence and the amount of the product fixed to the matrix, whereby the presence, the activity, or both the presence and activity of the enzyme can be determined.
- 2
32. [Original] The method of Claim 31, wherein the enzyme assayed is classified within an enzyme classification selected from the group consisting of EC 2.7.1.67, EC 2.7.1.68, and EC 2.7.1.137.
- 3
33. [Original] The method of Claim 32, wherein in step (a), the enzyme substrate is contacted with a binding matrix comprising an aldehyde-activated support.

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~~34.~~ [PREVIOUSLY AMENDED] The method of Claim ²~~32~~, wherein in step (a), the enzyme substrate is contacted with a binding matrix comprising an aldehyde-activated support.

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~~35.~~ [Original] The method of Claim ²~~32~~, wherein in step (b), the substrate is contacted with the enzyme in the presence of labeled phosphate groups, and in step (c), the matrix is analyzed by determining the presence, the amount, or the presence and amount, of labeled phosphate groups fixed to the matrix.

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~~36.~~ [Original] The method of Claim ⁵~~35~~, wherein in step (b), the substrate is contacted with the enzyme in the presence of ³²P-labeled phosphate groups, and in step (c), the matrix is analyzed using a scintillation counter or a phosphorimager.

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~~37.~~ [Original] The method of Claim ²~~32~~, wherein in step (a), the matrix is contacted with a substrate of formula:



wherein each R is independently an unsubstituted or substituted C₂ to C₂₄ alkyl, alkenyl, alkylcarbonyl, or alkenylcarbonyl group, and R², R³, R⁴, R⁵ and R⁶ are selected from the group consisting of hydrogen and phosphate, provided that not all of R², R³, R⁴, R⁵ and R⁶ are simultaneously phosphate.

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38. [CURRENTLY AMENDED] The method of Claim ¹~~31~~, wherein the enzyme assayed is classified within an enzyme classification selected from the group consisting of EC 3.1.3.27, EC 3.1.3.36, EC 3.1.3.64, ^{and} EC 3.1.3.67, ~~EC 3.1.4.10, and EC 3.1.4.11~~ EC 3.1.4.13.

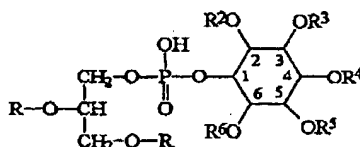
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39. [Original] The method of Claim ⁸~~38~~, wherein in step (a), the substrate is contacted to a binding matrix comprising an aldehyde-activated support.

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40. [Original] The method of Claim ⁸~~38~~, wherein in step (a), the substrate is contacted to a binding matrix comprising an aldehyde-activated regenerated cellulose support.

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41. [Original] The method of Claim ⁸~~38~~, wherein in step (b), the substrate is contacted with the enzyme in the presence of labeled phosphate groups, and in step (c), the matrix is analyzed by determining the presence, the amount, or the presence and amount, of labeled phosphate groups fixed to the matrix.

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42. [Original] The method of Claim ¹¹~~41~~, wherein in step (b), the substrate is contacted with the enzyme in the presence of ³²P-labeled phosphate groups, and in step (c), the matrix is analyzed using a scintillation counter or a phospho-imager.

¹³
43. [Original] The method of Claim ⁸~~38~~, wherein in step (a), the matrix is contacted with a substrate of formula:



wherein each R is independently an unsubstituted or substituted C₁ to C₂₄ alkyl, alkenyl, alkylcarbonyl, or alkenylcarbonyl group, and R², R³, R⁴, R⁵ and R⁶ are selected from the group consisting of hydrogen and phosphate, provided that not all of R², R³, R⁴, R⁵ and R⁶ are simultaneously hydrogen.

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[Original] The method of Claim ~~31~~¹, wherein in step (a), the enzyme substrate is contained within a cell lysate and the cell lysate is contacted with the matrix.

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[Original] The method of Claim ~~31~~¹, wherein in step (a), the enzyme substrate is contained within an organic-phase solution and the organic-phase solution is contacted with the matrix.

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[Original] The method of Claim ~~31~~¹, wherein in step (a), the enzyme substrate is contacted with the matrix in the absence of drying the substrate and in the absence of extracting the substrate from an organic phase into an aqueous phase prior to contacting it with the matrix.